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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,226	06/20/2001	Giovanni Traverso	Q65045	3000

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EXAMINER	
WONG, BLANCHE	

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/884,226	TRAVERSO ET AL.	
	Examiner	Art Unit	
	Blanche Wong	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 11* is/are rejected.

7)☒ Claim(s) *2-10,12--18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 June 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because drawing elements in **Fig. 1 and 2** need descriptive labels.

Examiner suggests removing abbreviations not obvious to a person of ordinary skill in the art, such ME, RD, ROT, CD, etc., but obviously important to the invention, in order to increase legibility.

Claim Objections

2. Claim 1 is objected to because of the following informalities:

Examiner suggests replacing – drive – with "driving" in ln. 3.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 1** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1, it is unclear how much is substantial in "substantially corresponding" in ln. 5. The word substantial or "substantially corresponding" in the current application where data flows are already misaligned during transmission and are to be aligned using Applicant's method and phase alignment circuit, might be material.

With regard to claim 1, it is unclear, even after inspecting the Substitute Specification, what is a sure data sequence, how a sure data sequence containing a logic transition, and what is the logic transition.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 1 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wildey (U.S. Pat No. 6,463,080) in view of Casasanta et al. (U.S. Pat No. 5,844,954).

With regard to claim 1, Wiley discloses a method (see Fig. 6) for aligning data flows (controlling time diversity, col. 1, ln. 8) (strong signal variations at the receiver are due to signal shadowing and multipath fading, col. 1, ln. 18-19) in time division frames (a voice frame and TDMA, col. 1, ln. 58-59) (see also frame structure in Fig. 3, col. 4, ln. 50-58), that provides for measuring (evaluation of speech frames, col. 5, ln. 9; 4% BER cut-off for the speech decoder, col. 5, ln. 7; measure quality q at the voice decoder, col. 5, ln. 11) the phase of said input data flow 13 (coming from microphone) (time delay is an integer number of frames t=kT, col. 5, ln. 32-33; see also col. 6, ln. 40-41) (n bits controller 33 derives the magnitude k) (voice decoders 24,25) with respect to the phase of a reference signal for controlling the delay time 34 (time delay controller) introduced by a delay line 22 (digital delay line) in said input data flow depending on the measured

phase, wherein the phase of the input data flow 13 (coming from microphone) is measured in a time interval substantially corresponding to the transit time 28 (feedback path is fed to the digital delay line corresponding to 22 in the transmitter, col. 6, ln. 66-67) of a sure data sequence (n bits) containing a logic transition 27,30 (combiner and quality detector), said sure data sequence being comprised in said input data flow (the output from a voice encoder 18 is fed to a direct path A and a delayed path B).

However, Wildrey fails to explicitly show that the delay time depends on a measured phase and that the measured phase is the phase of input data flow with respect to the phase of a reference signal, as recited in claim 1.

In an analogous art, Casasanta discloses a digital delay line (see Fig. 3) connected to a phase detector where there are a phase of input data flow (see CLRZ input in Fig. 3) and a phase of a reference signal (system clock in Fig. 3) (see also Fig. 9 and 13).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include digital delay line and phase detector such as the combination in Casasanta . The suggestion/motivation for doing so would have been to provide for APLL (analog PLL) where there is less jitter compared to the step jitter of a DPLL (digital PLL). Casasanta, col. 1, ln. 63-64. Therefore, it would have been obvious to combine Casasanta with Wildrey for the benefit of a delay time that depends on a measured phase and a measured phase that is the phase of input data flow with

respect to the phase of a reference signal, to obtain the invention as specified in claims 1.

With regard to claim 19, Wildey discloses a phase alignment circuit (see Fig. 6) of an input data flow in time division frame (a voice frame and TDMA, col. 1, ln. 58-59) (see also frame structure in Fig. 3, col. 4, ln. 50-58), comprising a phase equalizer (the time delay processor at the receiver in Fig. 6) for equalizing the phase (the direct path A and the delay path B) of a reference signal with the phase of the input data flow 28 (feedback path is fed to the digital delay line corresponding to 22 in the transmitter, col. 6, ln. 66-67); and a sure data sequence (n bits in Fig. 6) containing a logic transition 27,30 (combiner and quality detector) comprised in the input data flow (the output from a voice encoder 18 is fed to a direct path A and a delayed path B).

However, Wildrey fails to explicitly show a variable delay line operating on the input data flow, as recited in claim 11.

In an analogous art, Casasanta discloses a variable delay line (variable delay element in Fig. 3).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a variable delay line. The suggestion/motivation for doing so would have been to provide for rough/fast phase adjustment. Casasanta, col. 3, ln. 23. Therefore, it would have been obvious to combine Casasanta with Wildey for the benefit of a variable delay line, to obtain the invention as specified in claim 11.

Allowable Subject Matter

7. Claims 2-10 and 12-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BW
December 22, 2005

CHI PHAM
'PERVISORY PATENT EXAMIN'
12/23/05